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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,857	12/29/2005	Guojun Dai	10004.0009	6423

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EXAMINER	
HOFFMANN, JOHN M	

ART UNIT	PAPER NUMBER
1791	

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11/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,857	DAI ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-28* is/are pending in the application.

4a) Of the above claim(s) *25-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/29/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I in the reply filed on 6/4/2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 25-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/4/2009.

Oath/Declaration

The declaration filed 25 December 2007 is defective.

The oath or declaration is defective because:
The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

The declaration refers to two specifications. Examiner understands that a proper declaration must be directed to a single specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16, 21, 22, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16: there is no antecedent basis for “the density". It is noted that a region can have more than one density. The claim recites that the density has a maximum variation of +/- 2%. It is unclear whether this is a variation of 2%, or whether it signifies a variation of 4%, because the difference between -2% and +2% is 4%. And it is also unclear if the baseline is a median or a mean (or something else). For example if a region has a mean density of 1.00 g/cc, then if the lower limit is 0.99 and the upper limit is 1.03 g/cc, such might not read on the claim because 3% is outside the 2% maximum.

Claims 20 and 21: there is no antecedent basis for “said glass soot preform”. This makes it unclear as to whether independent claim should be interpreted as requiring a soot preform

Claim 24: it is unclear what is meant by the hole “extending through” a direction. A direction has no beginning or end, thus nothing can go literally through it. It is unclear whether the hole goes along the fiber.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15-16, 20-22 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Jakobsen 2004/0179796.

See figure 2 of Jakobsen and [0005] and [0058] which disclose drilling a hole into a preform which already has holes. Drilled holes can be considered to be "pores"; see for example col. 2, lines 43-46 of Yamauchi 4834786. Since the Jakobsen preform has pores, it is a "porous preform" prior to the last hole being drilled. The rest of the limitations of claim 15 are clearly met.

Claim 16: First, since the glass is solid in the region to be drilled is solid glass one would understand it is essentially constant. Alternatively, it is deemed inherent that over a sufficiently brief period of time, the density does not change. One would understand that if the central region's density changed by more than 2% the glass would crack and would not work.

Claims 21-22: These claims depend on claim 15 and they also refer back to a "glass soot preform". But there is no antecedent basis for a soot preform. In this situation it is deemed that the broadest reasonable interpretation of these claims is: If there is a glass soot preform, then it had a density in the range.... But since Jakobsen's

method does not have a soot preform, the conditional (if) is not met, so the result (then) is not required. Thus claims 21-22 fail to define over Jakobsen.

The same interpretation applies to claim 20. And an additional interpretation is applied in the alternative: Claim 20 identifies the preform by the manner in which it is formed – however there is no step of actually depositing soot recited by the claim. It is well understood that the Office permits product-by-process claims. Thus it is deemed that product-by-process limitations within a claim are also permitted. Examiner interprets claim 20 as merely describing the preform, by the manner in which it is made, rather than requiring a step of actually createing/depositing soot. Examiner finds that the Jakobsen preform is indistinguishable from one formed by means of an OVD process or VAD process. All are comparable processes in terms of purity and microstructure.

Claim 24 is met as per at least [0181] of Jakobsen.

Claims 15, 17-20 rejected under 35 U.S.C. 102(e) as being anticipated by Tajima 2003/0136154.

Tajima is applied in substantially the same manner as Jakobsen is applied above. That is, the first drilled holes/pores the first claimed forming step, and a subsequent drilling is the second forming step. See Figure 3 and the associated text

Claim 17: See [0043] the heating to make the glass transparent is clearly a sintering/consolidating step. It occurs after the drilling.

Claim 18: The heating to 1700 C is a dehydration process, because it is a process that can be used to dehydrate something. It is noted that the claim does not require a step of “dehydrating”, rather it merely requires a step of "submitting" to a process. Clearly if there was any water on the preform surface, it would be reasonably evaporated with such heating.

Claim 19: the VAD ([0043]) method is a flame hydrolysis method. It is noted that the forming of claim 19 is not set forth as being the forming of claim 15, thus it can be a subsequent forming. Claim 20 is clearly met.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

> the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima as applied to claim 15, and further in view of De Hazan 6467312 and Shimizu 4883521.

Tajima discloses drilling a preform made of solid silica glass. The preform is never made of gel. De Hazan discloses making multistructured fibers from solgel material that is then sintered. See for example figure 1 and claim 1 of DeHazan. But DeHazan creates the holes via molding, rather than drilling.

It would have been obvious to alter the Tajima process by starting out with a solgel blank rather than a solid glass blank, as such is the mere substitution of one known preform starting material for another.

Shimizu is cited as evidence that the high-temperature deposition methods (OVD, VAD and MCVD) of creating glass for optical fibers has “several problems and disadvantages’ , that the low temperature sol-gel processing does not. See Shimizu (col. 1, lines 19-65). Thus one would have been motivated to use a sol-gel material as

the starting material in the Tajima process for any/all of the advantages that Shimizu discloses for using sol-gel rather than other glass-forming techniques.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamauchi, Blankenship, Oh (both), Hawegawa, Bhagavatula, Libori are cited as being of being directed to the creation of optical fibers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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